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**Food new & improved? High-tech foods may be tastier and hardier. But they're causing some people to lose their appetites.**  Fitzgerald, Nancy.

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What happens when you cross

\* a strawberry with an arctic flounder?

\* a daffodil with a grain of rice?

\* a tomato with a germ?

Is this a little too freaky for you?

It's not freaky for scientists who are working on genetically modified foods. They're coming up with creative combinations they hope will produce new and improved plants. From the pairings above, scientists are trying to grow

\* strawberries that can survive in colder temperatures,

\* rice packed with extra vitamins, and

\* more flavorful tomatoes.

These combos aren't on supermarket shelves yet. But many other genetically modified foods--also known as GM foods--are. Genetically modified soy, a kind of bean, is in everything from breakfast cereal to ice cream to dog food. In fact, it's in more than half of all packaged foods in the grocery store.

But should GM foods be in our supermarkets and on our plates? People sharply disagree.

In Search of Perfect Plants

Humans have tried to grow better plants for thousands of years. The Sumerians (sue MARE ee ens), who lived in what is now Iraq, learned to save the seeds of their best crops and sow them again the next spring. After a couple of growing seasons, they ended up with stronger, healthier plants.

Later, farmers in Central America used cross-pollination to make entirely new plants. They placed the pollen of one plant on the flower of another and created corn on the cob.

Today's approach is faster than saving seeds or moving pollen. It all starts with something called a gene. Every cell of every living thing contains thousands of genes. Genes carry the chemical information that determines an animal or a plant's traits, such as shape and color. Scientists have learned how to move genes from one living thing to another. Moving genes lets scientists add useful traits to plants. This is called genetic engineering.

Why Mess With Nature ?

Sometimes farmers fight a losing battle against bugs and weeds. In the United States, for example, the corn borer--an insect that looks like an inchworm--destroys huge amounts of corn. It costs farmers more than a billion dollars a year in lost crops and pesticide sprays. But a special type of GM corn makes its own pesticide. The corn kills almost all of the corn borers that attack it. With a pesticide built right into the plant, farmers don't need to use as many chemical sprays.

Genetic engineering has mostly helped U.S. farmers. But many scientists are excited about other uses. For example, they are working on ways to put genes that produce vaccines (vak SEENS) into bananas and other foods. Children who eat the bananas would be protected from diseases without needing expensive shots.

Food Fright

Producing plants that are stronger, taste better, have built-in pesticides, or help children fight disease sounds great. But critics of GM foods say we haven't studied the crops long enough to know how they will affect the environment and human health.

Some scientists argue that pollen from GM plants could spread--by insects and wind--to regular crops. This could create new breeds of "monster" plants that we wouldn't be able to control.

Opponents of GM food also think the crops could carry genes that trigger allergies or other side effects. Recent Cornell University research suggests such problems could crop up. In one experiment, lacewing caterpillars ate insects that had been fed GM corn. Half the caterpillars died.

Making the Choice

GM foods have been on U.S. supermarket shelves since 1996. No one has proved them to cause serious health problems. But it's hard to be sure of their effects because GM foods aren't labeled. Most people don't even know they're eating genetically modified foods.

Should GM foods be labeled? Many countries say yes. So far, the United States says no. But that may change. Recent surveys indicate that most U.S. shoppers want labels that help them make choices about GM foods.